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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF

EVELYN BOETTCHER, ET AL.

: EXAMINER: DUVERNE, J.F.

SERIAL NO: 09/957,022

:

FILED: SEPTEMBER 21, 2001

: GROUP ART UNIT: 2839

FOR: TUNABLE DISPERSION
COMPENSATING BANDWIDTH DEVICE
FOR FIBER OPTICS SYSTEM

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

This is an appeal of the Final Rejection mailed November 19, 2004, of Claims 1-4, 10, and 11 that is hereinafter referred to as the "FR." A Notice of Appeal was timely filed with a three month extension of time on May 19, 2004.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is C-COR INCORPORATED¹.

II. RELATED APPEALS AND INTERFERENCES

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¹ C-COR INCORPORATED purchased this application from the assignee of record, OPTINEL SYSTEMS INC., along with several others. The new assignment documents are being prepared and will be filed in due course.

Appellants, Appellants' legal representative, and the assignees are aware of no appeals which will directly affect or be directed affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1-19 are pending in this application. Claims 1-4, 10, and 11 have been finally rejected and form the basis for this appeal. Claims 5-9 and 14-19 have been allowed while Claims 12 and 13 should be indicated to be objected to as dependent on a rejected base claim instead of indicated as being allowed as in the FR². The attached appendix includes a clean copy of appealed Claims 1-4, 10, and 11.

IV. STATUS OF THE AMENDMENTS

No amendments after final rejection have been filed.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claim 1 is directed to a tunable dispersion compensating device for optical communications systems. One exemplary embodiment of this claimed subject matter is illustrated by FIG. 1B that shows a compliant material support block 10 under a load condition in which a surface of this compliant material support block receives the applied load in a direction that is substantially orthogonal to a longitudinal axis of the compliant material support block 10. In addition, note the specification at paragraph 0014, specifically page 4, lines 11-18, for example., that discuss the application of a vertical load to an upper surface of the compliant material support block 10 that results in an internal strain. As FIG. 2 illustrates, for example, this compliant material support block 10 includes a Bragg-grating fiber 24 as discussed, for example, in paragraph 0016 at page 4, line 26-page 5, line 1.

² Note the Interview Summary, dated May 13, 2004, noting the correct status

Independent Claim 10 is directed to a wavelength division multiplexed optical communication system that includes a plurality of optical transmitters, like transmitters T₁, T₂, . . . , and T_n of FIG 4, in communication with an optical multiplexer, like optical multiplexer 104 of FIG. 4. This illustrative FIG. 4 embodiment further shows a signal transmission waveguide 106 optically communicating with the optical multiplexer 104 as well as an optical demultiplexer 108. The optical demultiplexer 108 is further shown here communicating with a plurality of optical receivers, R₁, R₂, . . . , R_n. A dispersion compensating device 16 also communicates with the transmission waveguide 106 as also shown by FIG. 4, for example. As explained in paragraph 00020.(at lines 3-18 of page 7 of the specification, for example), the dispersion compensating device 16 can be connected at multiple locations and there can be more than one such device that corresponds to the tunable dispersion compensating device 16 discussed above.

The subject matter of independent Claim 11 relates to a method of making the tunable dispersion compensating device 16 discussed above as to Claim 1 subject matter. These method steps are more fully described in paragraph 0018 that bridges pages 5 and 6 of the specification, for example, including the steps of disposing a Brag-grating fiber into an elongate mold with support material then being poured into the mold, which support material being compliant when it sets along with the step of attaching a load supply assembly to the support material. See page 5, lines 3-12, of the specification, for example.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The only outstanding rejection applied to Claims 1-4, 10, and 11 is under 35 U.S.C. §103 (a) as being unpatentable over Jin et al (U.S. Patent No. 6, 055,348, hereinafter Jin).

VII. ARGUMENT

A. Argument as to the subject matter of Claim 1

The rejection applied to Claims 1-4, 10, and 11 under 35 U.S.C. §103 (a) as being unpatentable over Jin appears to be based upon a clearly erroneous interpretation of the reasonable teachings of Jin.

First, it is clear that Claim 1 recites “a compliant supporting block” and that the FR simply assumes that “Jin’s device discloses a compliant support block at 16.” However, no teaching that fixed substrate 16 (col. 4, line 50) is in anyway “compliant” appears in Jin. This “substrate” is also described as a “support frame” (at col. 4, line 63). This substrate support frame is further clearly intended to be non-compliant as it is the fiber 11 and its fiber grating region 12 that are taught to have two distinct tensile states (col. 5, lines 18-19), while the end walls of cavity 17 of the support frame [substrate 16] are to “function as barriers against lateral movement of the body 14” (col. 5, lines 14-15). If the material of the substrate were “compliant,” then the sidewalls 17a, 17b, would also be compliant and not be able to perform as the stiff and unyielding “barriers against lateral movement” intended by Jin.

Moreover, while the degree of compliance is not specified by Claim 1, it is clear that the PTO is not at liberty to simply assume that all materials are compliant as is apparently done in the FR. Poof, not assumptions is what is required. See In re Warner, 379 F.2d 1011, 1017 ,154 USPQ 173, 178 (CCPA 1976) as follows:

A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, all facts must be considered. The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.

The PTO reviewing court recently repeated the requirement for a factual presentation of supporting evidence in In re Zurko, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001) requiring that “[w]ith respect to core factual findings in a determination of patentability,” the PTO “must point to some concrete evidence in the record in support of

these findings.” Rather than pointing to any evidence that fixed substrate-support frame 16 that must provide stiff and rigid end walls 17a, 17b that are to “function as barriers against lateral movement of the body 14,” as noted above, the FR simply concludes, without any supporting evidence, that this fixed substrate-support frame 16 is “compliant” or is ignoring the well established meaning of “compliant” and its usage in the disclosure and claims of this application.

In this last respect, each word of every claim must be given weight. See In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Further, it is well established that while the PTO is to give claim language its broadest “reasonable” interpretation, this does not mean that the PTO can completely ignore the understanding that the artisan would have of the term “compliant” obtained in light of the specification so as to ascribe a completely different and unknown meaning to “compliant.” See In re Cortright, 165 F.3d 1353, 1358, 49 USPQ 2d 1464, 1467 (Fed. Cir. 1999). (“Although the PTO must give claims their broadest reasonable interpretation, this interpretation must be consistent with the one those skilled in the art would reach.”) and In re Okuzawa, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976) citing In re Royka, 490 F.2d 981, 984, 180 USPQ 580, 582-83 (CCPA 1974) (“Claims are not to be read in a vacuum, and while it is true they are given the broadest *reasonable* interpretation during prosecution, their terms still have to be given the meaning called for by the specification of which they form a part.”).

Besides the missing reasonable interpretation and consideration of the claim term “compliant” and/or any reasonable explanation of how the fixed substrate-support frame 16 of Jin (that must provide stiff and rigid end walls 17a, 17b that are to “function as barriers against lateral movement of the body 14,” as noted above) can be reasonably said to be taught by Jin to be “compliant,” the FR attempts to inject a PTO created teaching into the disclosure

of Jin. In this regard, col. 1, lines 29-65 of Jin do not relate to a “body” like the “body” of col. 4, lines 50-58, contrary to the apparent assertion at the bottom of page 2 of the FR.

In this last respect, In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) establishes that:

While the test for establishing an implicit teaching, motivation, or suggestion is what the combination of [reference statements] would have suggested to those of ordinary skill in the art, the [reference] statements cannot be viewed in the abstract. Rather, they must be considered in the context of the teaching of the entire reference. Further, a rejection cannot be predicated on the mere identification in [the reference] of individual components of claimed limitations. Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. (Emphasis added.)

With further regard to the above emphasized first point from Kotzab, the disclosure of col. 1, lines 29-65 of Jin clearly teaches that the “body” referred to at col. 1, line 34 is a grating body that will “typically comprise a body of material with a plurality of spaced-apart optical grating elements disposed in the material.” Thus, there is no teaching here that equates this grating body of material to the “body 14” disposed adjacent to the fiber with grating region 12 discussed at col. 4, lines 50-58 (lines 55-58 in particular). Clearly, the grating body that will “typically comprise a body of material with a plurality of spaced-apart optical grating elements disposed in the material,” discussed at col. 1, lines 33-37 in particular, is no different from the fiber 11 including the grating region 12 and not the “body 14” that is moved to place strain on the fiber 11 and included grating region 12.

Moreover, even if it were possible to somehow equate “body 14” to the col. 1, line 34 grating body of Jin that will “typically comprise a body of material with a plurality of spaced-apart optical grating elements disposed in the material,” this “body 14” has been relied upon to be read as the “applied load” of Claim 1 while the fixed substrate-support frame 16 of Jin has been relied upon to teach the Claim 1

“compliant support block” that has the claimed “load receiving surface.” Thus, even if it could be said that Jin somehow teaches the placement of the grating region 12 in the body 14 instead of in fiber 11, the fact remains that Claim 1 recites the “Bragg-grating fiber” to be “disposed in the compliant support block,” not in the recited “applied load” as the erroneous PTO rationale would have it.

In addition, there would be far more than a mere rearrangement of parts here. Instead, the artisan would have to devise some totally new mechanism to try to strain body 14 with an internal “Bragg-grating fiber,” a total redesign of Jin. More importantly, even if the artisan were to do this, the claimed subject matter of Claim 1 would not be the result.

B. Argument as to the subject matter of Claim 2

Claim 2 requires all the subject matter of Claim 1 and adds a support frame in which the Claim 1 compliant support block containing the “Bragg-grating fiber” is disposed. Accordingly, the Claim 1 arguments as to the deficiencies in Jin still apply. In addition, the Claim 2 support frame must further have end openings to allow for expansion of the compliant support block due to the applied load, limitations totally ignored in the FR. Accordingly, as all Claim 2 limitations have not been shown to be taught or suggested by Jin, no *prima facie* case of obviousness over Jin has been established which requires reversal of this untenable rejection of Claim 2.

C. Argument as to the subject matter of Claim 3

Claim 3 requires all the subject matter of Claim 1 and adds a substantially rigid bar that also must be disposed in the compliant support block containing the “Bragg-grating fiber.” Accordingly, the Claim 1 arguments as to the deficiencies in Jin still apply. In addition, the Claim 3 rigid bar that must be disposed in the compliant support block containing the “Bragg-grating fiber” has not been shown in

the FR to be in any way taught or suggested by Jin. Accordingly, as all Claim 3 limitations have not been shown to be taught or suggested by Jin, no *prima facie* case of obviousness over Jin has been established which requires reversal of this untenable rejection of Claim 3

D. Argument as to the subject matter of Claim 4

Claim 4 requires all the subject matter of Claim 3 and adds that the substantially rigid bar is an aluminum bar. Accordingly, the Claim 1 and Claim 3 arguments as to the deficiencies in Jin still apply. In addition, the Claim 4 rigid aluminum bar that must be disposed in the compliant support block containing the “Bragg-grating fiber” has not been shown in the FR to be in any way taught or suggested by Jin. Accordingly, as all Claim 4 limitations have not been shown to be taught or suggested by Jin, no *prima facie* case of obviousness over Jin has been established which requires reversal of this untenable rejection of Claim 4.

E. Argument as to the subject matter of Claim 10

Claim 10 requires all the subject matter of Claim 1 as to its recited “dispersion compensating unit” that is included with the optical transmitters, optical multiplexers, waveguide, optical demultiplexers, and optical receivers recited as parts of the Claim 10 system. Accordingly, the Claim 1 arguments as to the deficiencies in Jin still apply. In addition, the Claim 10 optical transmitters, optical multiplexers, waveguide, optical demultiplexers, and optical receivers have not been shown in the FR to be in any way taught or suggested by Jin. Accordingly, as all Claim 10 limitations have not been shown to be taught or suggested by Jin, no *prima facie* case of obviousness over Jin has been established which requires reversal of this untenable rejection of Claim 10.

E. Argument as to the subject matter of Claim 11

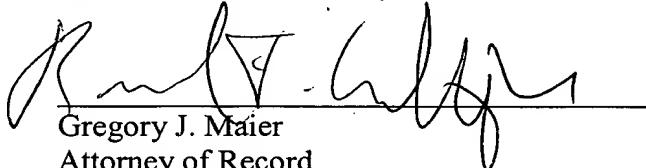
Claim 11 is a method claim requiring the disposing of a “Bragg-grating fiber into an elongated mold.” There is no teaching of this claimed step that applicants can find in Jin and no rationale in the FR as to where or how Jin teaches this step. Claim 11 also requires a step of “pouring support material into said elongated mold, said support material being compliant when it sets.” Once again, there is no teaching of this claimed step that applicants can find in Jin and no rationale in the FR as to where or how Jin teaches this step. Finally, Claim 11 requires a step of “attaching a load-supplying assembly to said support material.” Again, there is no teaching of this claimed step that applicants can find in Jin and no rationale in the FR as to where or how Jin teaches this step. Accordingly, as all Claim 11 limitations have not been shown to be taught or suggested by Jin, no *prima facie* case of obviousness over Jin has been established which requires reversal of this untenable rejection of Claim 11.

CONCLUSION

The rejections applied to Claims 1-4, 10, and 11 should all be reversed as being clearly improper under the controlling precedent cited above and for the above-noted reasons.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

1. (Original): A tunable dispersion compensating device for optical communications systems, comprising:

a compliant support block having a longitudinal axis and a load-receiving surface oriented substantially parallel to said longitudinal axis, said load receiving surface being suitable to receive an applied load in a direction substantially orthogonal to said longitudinal axis; and

a Bragg-grating fiber disposed in said compliant support block and extending substantially along and at an angle to said longitudinal axis of said compliant support block.

2. (Original): A tunable dispersion compensating device according to Claim 1, further comprising a support frame, said compliant support block being disposed in said support frame,

wherein said support frame is open on opposing longitudinal ends suitable to allow said compliant support block to expand along said longitudinal axis in response to said applied load in said direction substantially orthogonal to said longitudinal axis.

3. (Original): A tunable dispersion compensating device according to Claim 1, further comprising a substantially rigid bar disposed in said compliant support block between said Bragg-grating fiber and said load-receiving surface of said compliant support block.

4. (Original): A tunable dispersion compensating device according to Claim 3, wherein said substantially rigid bar is an aluminum bar.

10. (Original): A wavelength division multiplexed optical communication system, comprising:

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a plurality of optical transmitters;

an optical multiplexer in optical communication with said plurality of optical transmitters;

a signal transmission waveguide in optical communication with said optical multiplexer;

a dispersion compensating unit in optical communication with said signal transmission waveguide;

an optical demultiplexer in optical communication with said signal transmission waveguide; and

a plurality of optical receivers in communication with said optical demultiplexer, wherein said dispersion compensating unit comprises:

a compliant support block having a longitudinal axis and a load-receiving surface oriented substantially parallel to said longitudinal axis, said load-receiving surface being suitable to receive an applied load in a direction substantially orthogonal to said longitudinal axis, and

a Bragg-grating fiber disposed in said compliant support block and extending substantially along, and at an angle to said longitudinal axis of said compliant support block.

11. (Original): A method of making a tunable dispersion compensating device for optical communications systems, comprising:

disposing a Bragg-grating fiber into an elongated mold;

pouring support material into said elongated mold, said support material being compliant when it sets; and

attaching a load-supplying assembly to said support material.

IX. EVIDENCE APPENDIX

None

X. RELATED PROCEEDINGS APPENDIX

None